

# The trouble with spreadsheets

**Their many limitations for the construction industry can be overcome with relational databases**

Charles Brown, owner of an electrical contracting business in Columbus, is like a lot of construction business owners. As his business began to grow, his reliance on spreadsheets morphed into a complex, inefficient mess. "I could have literally wallpapered a small office with the spreadsheets that I regularly used for our accounting and job analysis," Brown told me. "I could not pull the information together to give me one source of data...and it was getting out of control." But he was reluctant to trust that new technology would solve his problems.

Brown's story is not unique. A large majority of medium-sized construction companies continue to rely on spreadsheets even though poor data integrity, accuracy issues and little time for data analysis are all common complaints.

## A better alternative

Since the spreadsheet era, newer and more sophisticated planning, budgeting and forecasting tools have been introduced. With programs designed specifically for construction, they promise a greater level of operational detail, more robust reporting, better analysis and quick consolidation of financial data—at a relatively inexpensive cost.

Among the drawbacks of spreadsheets is the vast amount of time spent on manual processes of "racking and stacking" data. Because they are easy to use, staffers like to create more and more complex spreadsheet systems. They end up spending way more time building and maintaining spreadsheets than they do analyzing the actual figures.

Soon, the data are outdated and the ability to get a clear picture of the company's financials is all but impossible.

That's what finally convinced Brown to abandon his over-dependence on spreadsheets. After switching to a construction-specific, job cost accounting system nearly 11 years ago, he's convinced that his business has survived, and thrived, because of the change. "As reluctant as I was to give up what I knew" he told me, "the fact that I had a hard time tracking my income and financials was an even greater concern. Now I can see exactly where I am really at, at any given moment."

## Software & spreadsheets

Brown could have replaced his spreadsheet accounting program with an off-the-shelf, non-construction specific software package. But, he may have found himself recreating nearly as many spreadsheet reports as previously.

Off-the-shelf packages are inexpensive and easy to use, but offer limited functionality to construction contractors. Such packages often force the business owner to adapt their business to the application, rather than the other way around. Non-construction specific packages also do not offer integration between job costing, general ledger and other modules. As a result, there is no easy way to manipulate data and see job costing numbers in different ways.

Spreadsheet software can store important information, perform complex calculations, link to other worksheets and so on. However, large amounts of data can quickly deteriorate the integrity

and usability of spreadsheets. In general, the larger the size of your data, the more likely you are to need more sophisticated technology found in a database management system.

## New technologies

To explain the difference, spreadsheet data is called *flat* or *non-relational* because it is held in a single page or sheet, referenced only by its cell. To update this information, the user must find and enter data in the right cell in the right spreadsheet. Because spreadsheet reports are fixed-format, they cannot show the data held within them in any other way.

In contrast, data held in a database system are called *relational*, meaning they have a one-to-many relationship with other data in your database. Data entered just once flows automatically to appropriate modules and data tables, allowing users find data in countless ways. Relational databases can store millions of pieces of data in a secure environment.

While spreadsheets still have a place within the finance office—for calculations, ad hoc queries and what-if scenarios—it is clear that there are better technologies available to the construction financial manager. Construction-specific accounting systems that use relational databases offer what spreadsheets don't: up-to-date, accurate information and flexible reporting capabilities. **BXM**

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